

Taking Swipes at Nuclear Power

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It is election season and the rhetoric in the air may not be healthy for the nuclear industry. The sector is getting it from all sides, with some on the right arguing that too many subsidies exist while some on the left are saying it is still unsafe.

It all means that nuclear energy could get burned before it would rise from the ashes. With ample uranium to feed the proposed plants and with relatively no harmful emissions associated with it, the nuclear sector is poised to respond. But legal and financial impediments are still combining to add extraordinary risks.

Currently, 104 nuclear reactors operate with a combined generating capacity of about 100,000 megawatts. That provides about 20 percent of this country's electricity. But, no new nuclear plants have been ordered since the Three Mile Island accident in 1979.

The price tag to build a nuclear facility in the days before Three Mile Island totaled about \$1 billion but after that the sunk costs amounted to about \$6 billion. Meantime, the timeframe to actually build the plants doubled from five years to 10 years. Long Island Lighting Co.'s Shoreham nuclear power station, for example, was estimated to cost about \$75 million when construction started in 1965. But, after 20 years of legal battles, the tab was \$6 billion -- and it never reached commercial operation.

The challenge going forward is to win investors who recognize the risks tied to regulatory and legal concerns as well those hazards associated with construction and technology. Wall Street, for example, is concerned that the Nuclear Regulatory Commission could mire the licensing process in red tape while specific communities could entangle the process in the courts for years. The repercussions would lead to construction delays that make projects cost prohibitive.

That's the impetus behind provisions enacted under the Energy Policy Act of 2005. The law provides for loan guarantees of up to 80 percent of a project's cost, while it also provides tax credit of 1.8 cents per kilowatt-hour for 6,000 megawatts of capacity from new nuclear power plants for the first eight years of operation. The act also extends the Price-Anderson Act that limits utilities' liability with any potential nuclear accident.

Altogether, the Nuclear Regulatory Commission says that it is expecting 19 applications from utilities in the coming months to build new facilities. Among those applying are Entergy, Exelon and NRG Energy. Recently, the NRC received applications for new reactors in Texas and Maryland.

Critics say that the renewed interest is about winning government largess. "Pro-nuclear groups herald the coming flood of applications as proof that nuclear energy makes economic sense. Nonsense. The only reason investors are interested: government handouts. Absent those subsidies, investor interest would be zero," write Jerry Taylor and Peter VanDoren, scholars at the conservative Cato Institute, in *Forbes*.

Concrete Steps

Ironically, the political right has traditionally been supportive of the nuclear sector. The left, conversely, has been cold. But, it has partially warmed up because of all the attention paid to climate change and the benefits that nuclear power could bring. Now that national elections are around the corner, though, the left is souring on some points such as where to store spent fuel. Nevada's Yucca Mountain has been authorized by lawmakers to be the central repository for such waste. But, fierce opposition and legal fights have delayed the opening until at least 2020 -- an issue that could derail all proposed nuclear projects.

With Nevada strongly opposed to the site being located there and with the state central to the primary contests, the Democratic candidates are pulling back. Front runner Hillary Clinton, who has accepted thousands in campaign contributions from the industry, says more nuclear development is possible, although storing spent fuel at Yucca Mountain is not. Barack Obama, who is the hometown favorite of nuclear powerhouse Exelon, rejects the site too. Ditto for New Mexico Governor Bill Richardson, who has reversed course after once supporting the proposed central repository.

The candidates may be ambivalent. But, some on the left remain totally opposed to any further nuclear development. The slightest potential of radioactive material escaping makes nuclear power implausible, they say. They are also dubious of claims that more nuclear energy could make a dent in the climate change picture, pointing to an MIT study that says if nuclear power is to have any significant effect on global warming it would require building at least 1,000 new reactors worldwide.

Despite the level of intense opposition, one industry-sponsored poll says that about 68 percent of the public would favor more nuclear energy. Utilities have capitalized on the momentum and are reaching out.

While the industry favors a central repository for spent fuel, many utilities say that they are successfully storing on site the waste in dry casks that are encased in large concrete barrels. To speed along further development, those companies have said they are okay with that arrangement for now.

The more immediate issue is winning the necessary financing. The industry says that while the upfront capital costs to build plants are high, the operational cost to run the plants is lower than competing sources. They also say that nuclear technology has advanced while the experience of those overseeing the plants is now unsurpassed. Plants

now run at 90 percent of installed capacity. In the 1970s, they had an average annual capacity factor of less than 70 percent.

"We are taking concrete steps to position ourselves to be able to make a decision when that time comes whether to build," says Randy Hutchinson, senior vice president for nuclear business development at Entergy Nuclear.

Nuclear developers are prepping but they are stopping short of making any firm commitments. The regulatory, legal and financial hurdles may be less formidable than before, but they are still daunting -- a reality underscored by the positions that both the hard right and left have staked out.